

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A transfer case comprising:

a one-piece housing ~~defining~~ including first and second apertures aligned on a first axis and a third aperture aligned on a second axis, and a circumferentially extending annular shoulder extending radially inwardly relative to said first aperture;

a first cover plate ~~enclosing~~ slidably received within said first aperture ~~and defining a first opening and abuttingly engaged with said shoulder, said first cover plate including a first opening;~~

a second cover plate enclosing said third aperture and defining a second opening;

an input shaft extending through said first opening;

a first tubular output shaft driven by said input shaft and having a small diameter pilot segment supported by said input shaft, a large diameter shaft segment extending through said second aperture, and a transition segment interconnecting said pilot segment and said shaft segment;

a second tubular output shaft having a pilot segment supported by said housing and a shaft segment extending through said second opening; and

a coupling mechanism for selectively coupling said second output shaft to said first output shaft.

2. (original) The transfer case of Claim 1 wherein said first cover plate includes a plate segment interconnecting first and second hub segments, said first opening in said first cover plate extending through said first hub segment, and wherein said second hub segment is sealed against said one-piece housing.

3. (currently amended) The transfer case of Claim 1 wherein said first and second tubular output shafts each comprise a formed tube having a metallurgical grain structure that is generally continuous, said first tubular output shaft further having a substantially constant wall thickness.

4. (currently amended) The transfer case of Claim 1 ~~3~~, wherein said first output shaft is formed to include a tapered transition segment integrally interconnecting said pilot segment to said shaft segment, said tapered transition segment having said substantially constant wall thickness.

5. (original) The transfer case of Claim 1 wherein said coupling mechanism includes a first sprocket that is rotatable relative to said shaft segment of said first output shaft, a second sprocket fixed to said shaft segment of said second output shaft, a chain for coupling said second sprocket to said first sprocket, and a mode clutch operable for selectively coupling said first sprocket to said first output shaft.

6. (original) The transfer case of Claim 1 wherein said first axis is parallel to said second axis.

7. (currently amended) A transfer case comprising:

a one-piece housing ~~defining~~ including first and second apertures aligned on a first axis and a third aperture and a boss portion aligned on a second axis, a circumferentially extending first annular shoulder extending radially inwardly relative to said first aperture, and a circumferentially extending second annular shoulder extending radially inwardly relative to said third aperture;

a first cover plate ~~enclosing~~ slidably received within said first aperture ~~and defining a first opening~~ and abuttingly engaged with said first shoulder, said first cover plate including a first opening;

a second cover plate ~~enclosing~~ slidably received within said third aperture ~~and defining a second opening~~ and abuttingly engaged with said second shoulder, said second cover plate including a second opening;

an input shaft extending through said first opening;

a first tubular output shaft having a first diameter pilot segment supported by said input shaft, a second diameter shaft segment extending through said second aperture, and a variable diameter transition segment interconnecting said pilot segment and said shaft segment;

a second tubular output shaft having a pilot segment supported in said boss portion of said housing and a shaft segment extending through said second opening; and

a coupling mechanism for selectively coupling said second output shaft to said first output shaft.

8. (original) The transfer case of Claim 7 wherein said first cover plate includes a plate segment interconnecting first and second cylindrical hub segments, said first opening in said first cover plate extends through said first hub segment, and wherein said second hub segment is sealed against said one-piece housing.

9. (original) The transfer case of Claim 7 wherein said coupling mechanism includes a first sprocket rotatable relative to said shaft segment of said first output shaft, a second sprocket associated with said shaft segment of said second output shaft, a chain for coupling said second sprocket to said first sprocket, and a mode clutch operable for selectively coupling said first sprocket to said first output shaft.

10. (currently amended) ~~The transfer case of Claim 9~~ A transfer case comprising:

a one-piece housing defining first and second apertures aligned on a first axis and a third aperture and a boss portion aligned on a second axis;

a first cover plate enclosing said first aperture and defining a first opening;

a second cover plate enclosing said third aperture and defining a second opening;

an input shaft extending through said first opening;

a first tubular output shaft having a first diameter pilot segment supported by said input shaft, a second diameter shaft segment extending through said second aperture, and a variable diameter transition segment interconnecting said pilot segment and said shaft segment;

a second tubular output shaft having a pilot segment supported in said boss portion of said housing and a shaft segment extending through said second opening; and

a coupling mechanism for selectively coupling said second output shaft to said first output shaft, said coupling mechanism including:

a first sprocket rotatable relative to said shaft segment of said first output shaft;

a second sprocket associated with said shaft segment of said second output shaft;

a chain for coupling said second sprocket to said first sprocket; and

a mode clutch operable for selectively coupling said first sprocket to said first output shaft;

wherein said second sprocket is formed as a sprocket segment on said second output shaft between said pilot segment and said shaft segment.

11. (new) A transfer case, comprising:

- a one-piece housing including first and second co-axially aligned apertures and a third aperture;
- an input shaft co-axially aligned with said first and second apertures;
- a first tubular output shaft rotatably driven by said input shaft and co-axially aligned with said first and second apertures, said first tubular output shaft having a substantially constant wall thickness and further including:
 - a pilot segment supported by said input shaft having a first diameter;
 - a shaft segment extending through said second aperture having a second diameter larger than said first diameter; and
 - a transition segment integrally connecting said pilot segment and said shaft segment;
- a second tubular output shaft having a pilot segment supported by said housing and a shaft segment extending through said second aperture; and
- a coupling mechanism for selectively coupling said second output shaft to said first output shaft;

wherein said wall thickness is substantially constant through each of said pilot segment, said shaft segment and said transition segment.

12. (new) The transfer case of Claim 11, further comprising:
a first cover plate having an outer annular hub entirely slidably received within said first aperture, said first cover plate including a first opening;
wherein said input shaft rotatably extends through said first opening.
13. (new) The transfer case of Claim 12, wherein said housing further comprises an annular shoulder extending inwardly proximate to said first aperture, said annular shoulder operable to abuttingly engage said first cover plate.
14. (new) The transfer case of Claim 13, further comprising a circlip engageable with said housing and operable to retain said first cover plate in contact with said annular shoulder.
15. (new) The transfer case of Claim 12, further comprising a second cover plate slidably received within said third aperture.
16. (new) The transfer case of Claim 15, wherein said second cover plate further comprises a second opening rotatably supporting said shaft segment of said second tubular output shaft.

17. (new) A transfer case, comprising:

a one-piece housing defining first and second apertures aligned on a first axis and a third aperture aligned on a second axis, and a circumferentially extending annular shoulder extending radially inwardly of said first aperture;

a first cover plate slidably received within said first aperture and abuttingly engaged with said shoulder, said first cover plate including a first opening;

a second cover plate slidably received within said third aperture, said second cover plate including a second opening;

an input shaft extending through said first opening;

a first tubular output shaft rotatably driven by said input shaft, said first tubular output shaft including:

a pilot segment supported by said input shaft having a first diameter;

a shaft segment extending through said second aperture having a second diameter larger than said first diameter; and

a transition segment integrally connecting said pilot segment and said shaft segment; and

a second tubular output shaft having a pilot segment supported by said housing and a shaft segment extending through said second opening;

wherein a wall thickness of each of said pilot segment, said shaft segment and said transition segment is substantially constant.

18. (new) A transfer case, comprising:

a one-piece housing including first and second co-axially aligned apertures and a third aperture;

an input shaft co-axially aligned with said first and second apertures;

a first tubular output shaft rotatably driven by said input shaft and co-axially aligned with said first and second apertures, and further including:

a pilot segment supported by said input shaft having a first diameter;

a shaft segment extending through said second aperture having a second diameter larger than said first diameter; and

a transition segment mechanically connecting said pilot segment and said shaft segment;

a second tubular output shaft having a pilot segment supported by said housing and a shaft segment extending through said second aperture; and

a coupling mechanism for selectively coupling said second output shaft to said first output shaft;

wherein a wall thickness of said first tubular output shaft is substantially constant through each of said pilot segment and said shaft segment.

19. (new) The transfer case of Claim 18, further comprising:

a first cover plate having an outer annular hub entirely slidably received within said first aperture;

a circumferentially extending annular shoulder of said housing extending radially inwardly with respect to said first aperture, said annular shoulder operable to abuttingly engage said first cover plate; and

a circlip engageable with said housing and operable to retain said first cover plate in contact with said annular shoulder.

20. (new) The transfer case of Claim 18, further comprising:

a cover plate slidably received within said third aperture;

a circumferentially extending annular shoulder of said housing positioned radially inwardly relative to said third aperture; and

a circlip engageable with said housing and operable to retain said second cover plate in contact with said annular shoulder.